Research Projects

IPRC investigators carry out numerous research projects in the areas of prevention, acute care, rehabilitation, surveillance, and biomechanics. Current projects are listed below:

- **Rural Smoke Alarm Trial**
- **Project Period: 09/01/02-08/31/07**

PI: Corinne Peek-Asa, MPH, PhD
Fires and burns are the seventh leading cause of injury death in the United States. Although home smoke alarms reduce the risk of dying in a fire by half and the risk of having a reportable fire by three-fourths, even after nearly three decades of availability their use is not universal. There is uncertainty about whether different types of alarms or lifespans of batteries could increase the prevalence of homes with working alarms. This project aims to compare the effectiveness in rural households of two alternative types of smoke alarm and of two different lifespans of battery. The primary study outcome is the presence of working smoke alarms. Using randomized control trial methods, we will install new, battery-powered photoelectric alarms in 400 homes and ionizing alarms in 400 homes at baseline. In half the homes in each group the alarms will have alkaline batteries, while in the other half they will have lithium batteries. Homes will be chosen randomly from the 1,004 rural homes of an existing longitudinal cohort study of health and safety. After 18 and 42 months we will revisit the homes to determine which homes still have operating alarms. If there is a between-group difference in the prevalence of homes with working alarms, we will use quantitative and qualitative methods to try to determine the reasons. In addition, we will investigate two secondary study aims. First, for the 800 alarm study households, we will use logistic regression methods to identify the demographic, behavioral and environmental risk factors from interview and observed data for failure to have all alarms working after 18 months. Second, to evaluate the validity of self-reported information on working smoke alarms, we will compare information from household interviews and inspections.

COPIES OF E-MAILS

from "Peek-Asa, Corinne" <corinne-peek-asa@uiowa.edu> hide details Jul 23
to Joseph Fleming <jfireeng@gmail.com>
date Jul 23, 2007 11:46 AM
subject RE: smoke detector study
mailed-by uiowa.edu

Hello Jay,

Here's a statement that you can use:

"A recent study conducted among rural Iowa homes examined the relation between smoke alarm types and alarm functionality at 12 months after installation. We focused on rural homes because fire death rates are highest in rural populations and little residential fire safety research has been conducted in rural settings. ***We found that ionizing smoke alarms had nearly 2 ½ times the reported rate of false alarms when compared with photoelectric alarms."***

-Corinne Peek-Asa, PhD

Professor, University of Iowa Department of Occupational and Environmental Health

Director, Injury Prevention Research Center

I have glanced through your study, and it now sits in my "to read" pile, with about 350 pages ahead of it (this is a very busy time for dissertation reviews). We have information on alarm silencers but haven't looked at it yet – we put ionizing alarms with silencers by the kitchen, and can compare with photoelectric alarms in the same locations (my guess is that the silencer won't help much). I will get to your report soon! -Corrie

From: Joseph Fleming [mailto:jfireeng@gmail.com]
Sent: Tuesday, July 17, 2007 6:40 AM
To: Peek-Asa, Corinne
Subject: Re: smoke detector stud

Profesor:

Could you possibly give me a statement that you agree with the conclusion of the researchers in the attached article, from Alaska, that photos are superior to prevent nuisance alarms.

I am meeting with the NFPA72 technical Committee in early August.

In addition, did you study the benefit of "silence buttons" for ion technolocy?

In the attached paper that I wrote I have a lot of info on nuisances alarms.

Jay Fleming

On 7/16/07, **Peek-Asa, Corinne** < corinne-peek-asa@uiowa.edu> wrote:

Hello Jay,

I am very happy to hear that you are interested in our study, and I am also eager to read your paper. We are just now publishing findings from the 18-month follow-up (which we actually did at 12 months), and we are currently finishing the 42 month follow-up visits. I've copies our abstract from the 12 month follow-up visits below, but please be aware that these are not yet published so for now must be kept confidential. Our findings are in complete support of your new building code. We will be happy to talk on the phone and to send you the manuscripts as the come out. I have attached two of our previous studies using our baseline data. Please stay in touch!

-Corinne